MEETING MINUTES (FINAL)

CITY OF TUCSON HABITAT CONSERVATION PLANS (HCPs)
Technical Advisory Committee (TAC)
Wednesday, April 1, 2009, 1:00 – 4:00 p.m.
U.S. Fish & Wildlife Service, Tucson Field Office
201 North Bonita Avenue, Suite 141
Tucson, Arizona 85745

ATTENDEES

City of Tucson (COT) Habitat Conservation Plans (HCPs) Technical Advisory Committee (TAC) members present:
Dennis Abbate (Arizona Game and Fish Department – Research Branch)
Marit Alanen (U.S. Fish and Wildlife Service)
Rich Glinski (Arizona Game and Fish Department – *retired*)
Trevor Hare (Coalition for Sonoran Desert Protection)
Ries Lindley (City of Tucson – Tucson Water Department)
Guy McPherson (University of Arizona – School of Natural Resources)
E. Linwood Smith (EPG, Inc.)

Other Attendees present:
Jamie Brown (City of Tucson – Office of Conservation and Sustainable Development)
Locana de Souza (Arizona Game and Fish Department)
David Jacobs (Arizona State Land Department / Arizona Attorney General's Office)
Leslie Liberti (City of Tucson – Office of Conservation and Sustainable Development)
Bob Schmalzel (Westland Resources, Inc.)
Nicole Urban-Lopez (City of Tucson – Office of Conservation and Sustainable Development)
John Wise (Stantec)
Bill Zimmerman (Pima County Regional Flood Control District)

1. Welcome, introductions, and ground rules

Jamie reminded the group that, per Technical Advisory Committee (TAC) member request, non-TAC members can add their comments to the discussion during the Call to the Audience.

2. Review of 2/25/098 TAC meeting minutes

Technical Advisory Committee (TAC) members approved the February 25, 2009 minutes with edits from Rich and Ries. The TAC also approved minutes from the October 1, 2008 meeting.

3. Updates

Avra Valley Habitat Conservation Plan Public Phase
Jamie reported that the City of Tucson (COT), in cooperation with the U.S. Fish and Wildlife Service (USFWS), has engaged in the National Environmental Policy Act phase for the proposed

Avra Valley Habitat Conservation Plan (HCP). Jamie said that the comment period began on March 18 and extends to May 18. A scoping meeting/public open house is scheduled for Thursday, April 16, from 6:30 to 8:00 p.m., with a brief presentation at 7:00 p.m. Stations will be set-up where attendees can stop by and talk with COT and USFWS staff. Flip charts and comments cards will be used for capturing comments.

Jamie said that the COT wants to have a variety of ways in which stakeholders and the public can share their comments and wants to ensure that these opportunities are well advertised. A media release has been sent to a large list of media outlets in the area, which was coordinated through the COT's Public Information Office. An e-mail message, similar to the media release, was sent to the list of stakeholders. Information about the HCP and how to comment is also available on new web pages [see www.tucsonaz.gov/ocsd/HCP] specifically set-up for this process where individuals can also submit comments via an on online comment form. Other outreach methods have been used such as getting announcements in the Robles Junction community newsletter and the Trico Electric Cooperative monthly newsletter. Also, flyers will be distributed to libraries and community centers near to or within the Avra Valley area. Ries asked if Jamie had asked Tucson Water's Public Information Officer (PIO) if it would be possible to get an announcement in the Tucson Water newsletter. Jamie said that he had asked the PIO who said that, unfortunately, it would not be possible. Ries said that getting announcements in this newsletter can be very difficult given the many layers of review and the advanced notice required.

Marit said that the term "scoping" may not be appropriate since an Environmental Impact Statement is not being pursued at this time and there is no official requirement for scoping as part of an Environmental Assessment. However, the COT and USFWS wanted to give the community an opportunity to comment and so she would characterize it more as a public information meeting.

USFWS species updates

Marit said that the USFWS is still working on the twelve month finding for the Tucson Shovel-nosed Snake.

4. Discussion:

Lee Moore Wash Basin Management Study updates

Bill Zimmerman of Pima County's Regional Flood Control District (PCRFCD) and John Wise of Stantec were present to provide information on the Lee Moore Wash Basin Management Study (hereinafter, "Study"). In terms of basic project background, Bill said that the area has a history of flooding and much of the existing development is unplanned, "wildcat" subdivision in which large (e.g., 40 acre) parcels were split into smaller parcels (e.g., 5-acres) with little or no infrastructure. He said that 48% of the Study area is under Arizona State Land Department (ASLD) ownership, making ASLD the largest landowner. He said that the goal of the Study is to develop alternatives for existing problems as well as plan for future growth since the area has been determined to be a growth area. He said that they would like to establish a "backbone" drainage system as opposed considering the drainage network on subdivision plat-by-plat basis. ill said that the project area is about 213 square miles. Old Nogales Highway is the western edge

of it. It dips down into the Santa Rita Experimental Range and Coronado National Forest. The northern boundary is the northern watershed boundary of Franco Wash.

In terms of the alternatives development process, Bill said that it began by collecting information through records research. He noted that there are only two Federal Emergency Management Agency mapped floodplains for the area and those were poorly mapped. So, the Study team performed floodplain modeling, the majority of which was done using the two-dimensional "FLO-2D" method for the large areas of distributary flow. Based on that, issues were identified, such as flooding areas. Alternatives were evaluated and, based on that, recommended alternatives were developed and costs estimated for each. Cost was excluded from the initial analysis to prevent premature dismissal of some ideas prior to consideration.

For a flood control project, Bill said that the Study team included a significant level of public involvement, such as public meetings and stakeholder groups (e.g., major landowners, jurisdiction staff, etc.). He added that expert groups informed the alternatives analysis. Specifically, from the jurisdictions, various staff members were involved from the fields of transportation, environment, flood control, and other relevant departments to get as much input as possible. Public meetings were held in 2006 (November) and in 2008. The summer 2008 public meetings occurred prior to alternatives development but after existing conditions had been mapped and issues identified. The meetings in November and December of 2008 involved presenting the recommended alternatives.

In terms of alternatives analysis, these were selected based on scoring and cost ranking similar to a "benefit/cost" ratio, with cost being considering at the very end of the process. Alternatives were divided into five groups, including environmental resources, sustainability, public safety and flood hazard mitigation, planning and infrastructure, and implementation. Each group scored all of the alternatives, and ranked them based on each individual's area of expertise. These scores were multiplied by a weighting, with public safety having the largest weight. The top scoring three or four alternatives in each category were kept for consideration, providing a combination of structural and non-structural alternatives.

Rich asked if the Study involved examining the permeability of the substrate. John said that they looked at geomorphology and hydrogeology from an overall, global perspective. They looked at the different strata and the groundwater table levels. He said that studies indicated that the shortest depth to groundwater was 50 to 100 feet down by the river. The highest depth was a few hundred feet. John said that they also looked at groundwater well information and the type of basic, infiltration capacities. Overall, the Study team was most interested in the type of soils and the associated potential infiltration and percolation rates relative to surface hydrology. Their findings indicated that there wasn't a specific correlation to the groundwater table and surface water. Because of that, the Study team determined that measuring the potential runoff that could be recharged naturally would not be included in the Study. John noted that some of the alternatives include multi-use facilities, which have detention and recharge features. Bill added that his department wanted to be consistent with their SCS-based [Soil Conservation Service runoff curve number] methods and so, for the FLO-2D modeled areas, a custom algorithm was created to determine the runoff based on SCS.

John displayed a map of the three sub-areas within the Study area. He said that south of the Franco/Flato/Summit washes, the watercourse channels are generally undefined. And, although there are named washes according to U.S. Geological Survey and Pima County maps, one cannot find defined channels in the Cuprite/Fagan/Petty Ranch and Sycamore Canyon/Gunnary Range sub-areas. Because flow is widespread and distributary, shallow sheetflow, the FLO-2D model was used instead of the HEC-RAS model. In these areas, once runoff starts to flow, it goes in all different directions, crossing watershed boundaries.

John mentioned several area-wide problems or issues, including undersized culvert crossings, lack of all-weather roadway access, roadway flooding, stock pond failure potential, floodplain encroachments/obstructions, lack of comprehensive drainage systems, shallow sheet flooding, localized erosion/sedimentation, drainage complaints, and diversion structures. He said that, on a majority of the roadways, there are no culverts, just dip crossings. He said that since nearly fifty-percent of the Study area is State land, there is a lot of grazing and at least 100 stock ponds. Some are in good condition while others have been there for many years and have breached, by natural or human-made means. As part of the project, the Study team took note of these as they may influence future development or flooding conditions.

Dennis asked about the stock ponds and their structure. Specifically, he asked if they are collecting water from the drainages which then pools behind the berms. John said yes and noted that some of these are substantial in size – up to 50 acres. He said that the problem is that they are human-made, earthen berms that were not designed with any engineering analyses. Moreover, they often haven't been compacted and so there is evidence of lateral breaching in several instances. Dennis asked if the berms are vegetated with trees. John said that some have natural vegetation growing on them, but most of them are bare earth.

In terms of structural alternatives, John said that these went through the review and selection process that Bill mentioned earlier. Some of the solutions were recommended to varying degrees, including flood proofing, regional detention basins, bank stabilization, conveyance channels/channelization, stock pond mitigation, diversion channels/structures, bridges, culverts, road improvements/realignment. These alternatives were considered both in terms of what could address current problems as well as what could accompany future development. Thus, as development occurs, the goal is to have a standard and systematic floodplain management approach applied throughout the area across jurisdictions.

In terms of road improvements/realignments, John said that the Pima Association of Government's Southeast Area Arterial Study (SEAAS) is what the Study team used when considering proposed future roadway alignments. Some of these proposed alignments, without having the benefit of this Study, now appear to bisect miles of floodplains and so this may provide an impetus to consider realignments.

In the slides, John referred to an example schematic of a regional detention basin at Franco Wash, with the Pima County Fairgrounds to the east. He said that the example schematic incorporates different features for both active and passive multi-use purposes. The flow corridor for the Franco Wash in the example remains as a natural channel configuration. By using the regional detention basin, the peak flow is reduced from the 100-year peak flow down to the 10-

year by temporarily impounding runoff within this facility and allowing it to continue west. This alternative reduces the amount of flows, the floodplain width, impacts to existing and future development, and the drainage crossing size for associated roadways. On the northern side of the multi-use basin are passive recreation facilities, such as trails, while the south side includes active recreation facilities.

John said that Important Riparian Areas to the east of this Conservation Lands System (CLS) boundary will be preserved in a natural state while those to the west would balance protection with development. The map showed potential roadway improvements to allow all-weather access. Currently, during heavy rainfall events, residents are unable to travel parts of Houghton Road. John referred to the flow corridors on the west side of the CLS boundary, which is what Pima County proposes to protect. The remaining floodplain areas could then be used for development. He added that compliance with existing ordinances would still be required.

John said that for areas like the Summit Neighborhood that experience flooding, recommended alternatives could involve installing culverts, automatic barricades, roadway improvements, or smaller regional detention facilities upstream. They also included diverting flow around the development area.

Bill spoke about non-structure alternatives, including the Floodplain Land Acquisition Program (FLAP) in which Pima County buys floodprone lands, demolitions the existing structures, and leaves the land in a natural state. Bill said that funding comes from the flood control levy tax. He said that these funds were used to buy properties in response to the flooding along the Canada del Oro wash in 2003. Bill also mentioned recommending flood insurance for some residents. Trevor asked about the flood alert system used by Pima County and Bill said that they use real time data collected from stream gages. For example, with the Canada del Oro wash, the stream gages at Golder Ranch can indicate the anticipated volume at La Cholla Boulevard.

Bill referred to a map of all of the floodplains within the Study area and noted the different modeling techniques – HEC-RAS and FLO-2D – used in the different areas. He said that when the Study team started the modeling, they did not model any watershed with volume less than 1000 cubic feet per second (cfs), which is why there are not as many floodplains in the northern part of the Study area. He said that they know that there are more floodplains in the Study area, but they did not have the funds to model those. In the slide, Bill noted the flow corridors, which they intend to leave natural to get the water from the Santa Rita Mountains to the Santa Cruz River. Flow corridors are established as, at a minimum, 10-year floodplains. However, Bill said that few of them are the minimum 10-year floodplain because they do not want to increase the flow height by more than one foot overall. This is because Pima County's ordinance restricts increasing water surfaces more than one foot, which they have to adhere to with these alternatives.

In terms of development criteria, Bill said that they began with 23 or 24 development criteria and ended with 16. These were developed with the help of a stakeholder group. In terms of draft development criteria for flow corridors, Bill referred to a slide, which stated the following rationale:

Identification and preservation of Flow Corridors in the watershed prior to development will provide for a systematic drainage infrastructure that new development will follow thus minimizing future flood hazards. Flow Corridor preservation, in conjunction with other drainage and environmental ordinances, will minimize off-site impacts from a particular development by maintaining existing flow paths, optimizing system sediment balance and providing continuity for wildlife corridors.

Bill said that sediment transport is very important and so, if at least the 10-year floodplain is preserved in a natural state, then this will help alleviate the headcutting that is already occurring in the Study area. He said that the Lee Moore Wash is a very short reach that looks like the South Dakota Badlands because of its degraded state. It has 10-foot headcuts because sediment is cut off by the railroad and Old Nogales Highway.

The criteria for flow corridors was stated on a slide as follows:

Flow Corridors established and defined as part of the Lee Moore Wash Basin Management Study shall be maintained in their natural state except as described below. Private and public development shall preserve the Flow Corridors identified in the Lee Moore Wash Basin Management Study to the fullest extent possible.

Bill said that when the development criteria were being drafted, they realized that the flow corridors that were modeled could be better delineated with site-specific engineering and so the Study leaves the option open to the landowner to conduct site-specific engineering. He said that in terms of Erosion Hazard Setbacks, this has been a problem for Pima County in distributary flow areas. Historically, if the wash was considered a 1000 cfs wash, one assumed that it was 1000 cfs everywhere on the site. Now, the Erosion Hazard Setback will be based on the discharge for individual channels. He said that the regulations do allow building in the floodplain and so PCRFCD wants to help private property owners do so safely. He noted that floodwaters cannot be allowed to completely surround a residence.

In terms of the schedule for the remaining portions of the Study, Bill said that the focus now is on completing the final deliverables. In response to stakeholder and jurisdiction requests, they have slowed the process to allow more time for review. Bill said that PCRFCD's goal is to have the deliverables adopted by the Board of Supervisors, COT Mayor and Council, and Town of Sahuarita (Sahuarita) Mayor and Council by the end of the year, if possible. Getting approval by all three jurisdictions would mean that the rules would not change as lands are annexed. In addition to getting approval from the jurisdictions for the non-structural alternatives, other next steps include considering funding options for structural alternatives.

Jamie asked if the locations for the multi-purpose detention basins had been determined. Bill said that possible locations had been established, but that not all of them need to be built. Costs estimates are $10,000,000 to $25,000,000. When the detention basins were sized, they took the volume needed to go from the 100-year floodplain to the 10-year floodplain. Jamie asked for clarification about how the Study would address floodplains within the CLS. John said that they

would essentially be left natural. Bill said that this is why no flow corridors extend into the CLS because the high level of set-aside required (e.g., 66.66% or greater) suggests that floodplains would likely be included in this set-aside as they are more expensive to build within. Jamie then asked about the floodplains just west of the CLS boundary saying that it sounded like the floodplain would be narrowed to the 10-year floodplain. Bill said yes, but that it would be a minimum 10-year peak flow. He added that site-specific floodplain engineering would still need to be completed by the developer. Bill said that the flow corridors were hydraulically driven but they also considered the location of riparian habitat and wildlife corridors.

Jamie asked about a hypothetical example where a big box store with a large percentage of impervious surface is developed up to the flow corridor boundary. Bill said that the flow corridor would be able to accept that runoff since that development will still require detention. He added that if PCRFCD builds a regional detention basin, future developments that benefit from it will be back charged, perhaps via rooftop fees. John said that a big-box development such as what Jamie mentioned is relatively small in comparison to the size of the watershed. Trevor said that hopefully water harvesting would be used to minimize the amount of off-site runoff and this would also help to irrigate the development's landscaping. Leslie said that, beginning in mid-2010, the COT will require that commercial developments meet half of their irrigation needs with rainwater harvesting. Leslie added that rainwater harvesting is required in subdivision common areas, but this is not performance-based. Bill said that Pima County is working on similar water harvesting regulations for common areas and Rights-of-Way.

Trevor talked about ideas put forth by the TAC in which, for the southern portion of the HCP planning area, large flow areas would be protected as natural open space. These could be used by the community as an amenity and could also provide wildlife habitat and connectivity. He wondered how what he described corresponds with the Study's floodplain and flow corridor mapping. Leslie said that the TAC prioritized watersheds north to south, saying that the southern watersheds were more important. She said that she thinks that the greenway Trevor was referring to is part of the habitat in the Petty Ranch and Fagan watersheds. The Petty Ranch is the southernmost wash in the COT. She said she thinks Trevor is referring to the riparian habitat that was "mapped" because it provides Cactus Ferruginous Pygmy-Owl habitat.

Jamie wondered if the Study's floodplains and flow corridors should be overlaid with the Harris Riparian map and 50-foot buffer the TAC added for Pale Townsend's Big-eared Bat foraging. Trevor agreed and said that it would be interesting to see other layers included such as the Environmental Resource Zone (ERZ) washes, Pima County Important Riparian Areas, and others. Jamie said that Ann Audrey of the COT Office of Conservation and Sustainable Development will provide an update at the next TAC meeting on the COT's Resource Planning Advisory Committee's work developing a unified watercourse protection ordinance. He added that planning staff from Sahuarita will also attend the next TAC meeting to talk about the proposed annexation. Trevor asked if Ann was involved in the Study and Bill said yes. Bill said that she was a stakeholder for development criteria and flow corridors.

Trevor asked how the Coronado National Forest lands were incorporated into the Study, if at all. Bill said that they conducted a watershed analysis to get discharge amounts. This was also done for the Santa Rita Experimental Range (SRER).

Jamie said he was unclear about the flow corridor concept in terms of possible COT adoption given that COT floodplain and Environmental Resource Zone regulations are triggered by the 100-year event at 100 cfs or greater. In terms of public safety and downstream flooding, he said he was unsure how the 10-year floodplain would be adequate. Bill said that the 10-year floodplain, at a minimum, is what would be left natural. He explained the definition of a floodplain, which is the natural limits to zero of a natural or constructed floodplain. In contrast, a floodway is what, given equal conveyance on each side, allows a maximum one-foot rise in water surface and what areas need to convey that flow, such as the 100-year flow. In addition, with floodways, it is a maximum one foot rise but often it is less. Bill said that a large amount of water can be diverted into a flow corridor and it can still be conveyed safely.

John referred to a schematic where the 100-year floodplain was left natural on one side of the wash and, on the other side, portions of the 100-year floodplain were filled and the flow corridor was armored to protect the fill slope. He said that this is basically a non-structural solution because portions are left natural, but it has a structural component. With flow corridors, this leaves a reasonable portion natural. In the past, the flow corridor would be much narrower and lined with concrete. Bill referenced the example schematic and the fill area saying that, according to the existing conditions, these areas that would be filled have a depth of half a foot or less in terms of the 100-year floodplain. Therefore, pushing this water into the flow corridor is relatively insignificant in terms of surface water volume. John said that flow corridors are a fairly new concept for Pima County and the COT. He said that it's a challenge relative to the current COT ordinances because these are regulated at the 100-year floodplain.

Bill said that he said he thinks the market will dictate the specific development densities in the Study area but that he is just concerned about getting water from location A to B without anyone getting flooded. Rich said that this is because Bill's clients, the end users, are developers and housing residents. He continued saying that the TAC is more interested in how water creates habitat for wildlife and so it seems like there is a disconnect. When the 100-year flow is dammed into a 10-year floodplain, it's much narrower. Trevor said that it is private property. Rich asked where 404 permitting comes into play because he thinks these are jurisdictional waters. Leslie said that it is the sandy bottom that is jurisdictional, not the entire 100-year floodplain. So, removing portions of the floodplain does not require any 404 permitting. Bill said that some of the flow corridors are 2,500 feet wide.

Trevor asked how watershed health is factored into the Study. He said that he is under the impression that lands within the Study area are overgrazed and that there may be downcutting. Bill said that while there is some development with lack of infrastructure causing flooding issues, there hasn't been too much degradation of the drainage system other than stock ponds. Bill said that stock ponds have caused more detriment than grazing. However, they also provide drinking water for cattle and wildlife.

Leslie said that the Study models floodplains using the 100-year event as a threshold, which is based on historic flows. She said that there is increased recognition that flows are predicted to change based on climate change impacts. The best modeling projections for Tucson suggest that the summer rainfalls are either not going to change a lot or will increase slightly in terms of

amount, but they are predicted to occur in fewer, but larger events. Therefore, Leslie said that many communities in the West are looking at broadening their floodplain protections and mentioned that some communities in California now use the 200-year floodplain in their management. She asked if there is flexibility in the way the Study is implemented if these climate change predictions come to pass. Bill said that the Study's floodplain modeling is based on NOAA 14 satellite data as opposed to the old NOAA 2. This means that higher rainfall amounts were used in the modeling. So, Bill said that he thinks the Study team has overcompensated for any possible rainfall changes associated with climate change predictions. Asked about whether or not this related to rainfall or flood events, Bill said that they modeled the 100-year flow at either the 3-hour event or the 24-hour storm event depending on the size of the watershed.

Trevor wondered if the entire study area would be considered a floodplain if the 200-year peak flows were used. Bill said that it goes back to the flow corridor concept in which a lot of water can be added without widening the flow corridor much. Trevor referred to what Bill said about the upper watersheds being modeled differently than the lower watersheds and asked COT staff if these areas are treated differently with the ERZ and new wash ordinance being developed. Leslie said no and that developments still require hydrologic modeling, which the COT Development Services Department, Engineering Section must approve. She said that, in general, the 100-year floodplain is currently protected at 100 cfs or greater and this doesn't work well in the COT portions of the Study area, which is why there is interest in creating a revised wash protection ordinance.

Updates on Arizona State Land Department planning efforts in the Greater Southlands (D. Jacobs)

David said that the Urban Lands Act, which was adopted 25 years ago, requires the Arizona State Land Department (ASLD) to develop conceptual plans for urban areas. The Act defines these areas as lands within municipal jurisdiction boundaries plus three miles outside of the boundary. The State Land Commissioner also has the discretion to determine if other areas are urbanizing and worthy of conceptual planning. David said that these plans are very broad, using planning categories such as high, medium and low residential. These conceptual plans are mostly used to assist ASLD when interacting with other planning processes for the area and to provide some basis for ASLD to evaluate proposals. These conceptual plans have legal effect to the extent that ASLD is supposed to act consistently with these plans, but the Commissioner always has the authority to amend them.

David said that these conceptual plans are either created by ASLD staff or by contractors hired by ASLD. On occasion, applicants who are interested in purchasing the property do the conceptual planning. He said that this is how some of the more outlying plans are developed. The Urban Lands Planning Oversight Committee (ULPOC), which consists of five planners from throughout the State, evaluate the plan to make sure that it is good planning and good for the State Trust, meaning that it respects the highest and best use. David said that the ULPOC does not currently exist because all of the members' terms have expired and the State Legislature has not appointed other members. Therefore, adoption of plans is on hold. Jamie asked when the ULPOC dissolved and David said he believed it was February 2008.

David said that there are other ASLD planning processes that have occurred, mostly around the Houghton Road area. For urban lands, there is an urban planning process where one creates layers of development plans, which are more specific. This is what one would expect to see within municipalities in terms of increased detail where lines are drawn with more respect to constraints. From there, additional development planning occurs before the land is sold, which is when densities (e.g., 4 residences per acres) are determined. At this planning level, the ULPOC does not review these plans and the State Land Commissioner makes the determination to adopt the plans or not. David said that there is interaction with the affected jurisdictions to attempt to integrate components of the jurisdiction's plans, zoning, etc. with these more refined ASLD plans.

David said that, compared to other parts of the state, ASLD has done relatively little planning in Southern Arizona. David said that one of the best examples of the different planning stages involves the Desert Ridge area north of Phoenix. Within this area, there is a Marriott Resort, a large shopping center, and Sumitomo and IBM offices. He said that land was being sold there for $1,000,000 per acre two years ago. In this case, a conceptual plan was developed followed by an initial development plan that was divided into "super blocks" of 3,000 or 4,000 acres. These super blocks were disposed of based on predetermined phasing. David noted that this is a thirty-year process for one of the fastest growing areas of the state. For southern Arizona, selling 3,000 acres of land a year would be considered a lot.

Rich asked if the Desert Ridge area had as many endangered and threatened species compared to the Greater Southlands. David said that he couldn't answer definitively. He said that the land is on a ridge and that washes were moved so that they are still in a natural state, but not in their same location. Rich said that he is somewhat familiar with the area and didn't think that there were significant endangered or threatened species issues.

David showed a map of the ULPOC and State Land Commissioner-approved Rincon Valley Conceptual Plan, which covers parts of the eastern spur of the Greater Southlands HCP planning area. In terms of the planned uses, he noted that "LIU" is Low Intensity Urban, which is one house per two acres. "LIR" is Low Intensity Rural, which is one house per 3.3 acres. Trevor said that the zoning categories and densities looked similar to those in Pima County's Comprehensive Plan. David said that ASLD usually tries to match the zoning classifications of the jurisdiction the plan is in or is predicted to be in.

Trevor said that he has often heard that ASLD has "super zoning authority." He gave the hypothetical example in which Pima County considers certain areas to be suitable for LIR and ASLD disagrees, saying that the area is better for LIU. He then asked how that conflict is resolved when it is sold to a private developer and whether or not ASLD's zoning supercedes Pima County's in that example. David said that if the jurisdiction says no to an ASLD proposed zoning and the State Land Commissioner says yes, then there is a specific legal process to address this zoning disagreement and it involves a hearing. However, David said that it is presumed that the State Land Commissioner's decision holds, but it can be overturned. With regard to a question about who the current State Land Commissioner is, David said that this is Mark Winkelman.

Dennis asked if David was saying that one individual makes the final decision. David said yes because the State Land Commissioner is a statutory authority of her/himself who is given a Department to run. He said that there are certain statutes that determine what the individual can do versus what the Department can do. It is ultimately the State Land Commissioner's signature that has legal authority.

David said that the "super zoning" concept in which the State Land Commissioner overrules a jurisdiction has never happened. He added that this is partly because in parts of Arizona where most of the State Trust land planning and development has occurred, there has been support for what ASLD proposed. Rich commented that, according to what he understands of the State Trust mandate, actions deemed good for the State Trust always outweighs resource protection issues. David said that habitat is unlikely to trump ASLD decisions in a "super zoning" context.

Trevor asked about the 100 square mile area near Apache Junction, an area he thought that ASLD proposed to set-aside a very large amount of open space and wildlife corridors. David said that that was an academic exercise developed out of Arizona State University with input from ASLD, but it is not a conceptual plan.

Jamie asked for clarification about whether or not constraints are incorporated into the conceptual plan stage. David said that the obvious constraints are considered, such as location of existing roads and watercourses, but that it is pretty broad brush. He continued saying that new information isn't gathered, but the information that already exists is used. Rich said that washes are probably considered by ASLD from a flooding and safety perspective but asked if resource value and protection is considered during the conceptual planning stage. In reference to the Rincon Valley Conceptual Plan, David said that there were discussions on this topic and that there is a large body of text that supports the conceptual plan and explains existing conditions.

Rich said that using the AGFD Heritage Data Management System (HDMS) could help create a good map of natural resources. Trevor asked if the Houghton Road Corridor (HRC)/Westcor master planning area is within the Rincon Valley Conceptual Plan area. David said no and that the HRC planning area is west. Trevor said that he thinks the HRC planning effort is an example of the next stage of planning in which the HDMS would be searched and the CLS incorporated.

Dennis asked if there are any mining interests considered as part of the Rincon Valley Conceptual planning area. David said that with State Trust land, a reservation of mining rights follows the land, even after disposal. He said that mining isn't considered in planning unless the resources have already been discovered. Marit asked if land could be mined underneath a house. David said that there is a process to protect the homeowner's interest but, ultimately, the State would have access to extract the resources underneath a house on State Trust land.

David presented a map representing a draft 2006 conceptual plan for the Southlands that has not been adopted. He said that it was approved by the ULPOC but the State Land Commissioner decided that there were too many issues raised by the jurisdictions to adopt it. David described the map, beginning by talking about the lands proposed for annexation by the Town of Sahuarita (Sahuarita). He said that the map broadly reflects what is in Sahuarita's General Plan. For

example, the General Plan recommends commercial and retail development along Sahuarita and Wilmot Roads. There is a "Center" notion in one area on the map with master planned residential areas as one moves toward the northwest corner of the proposed annexation area. He said that the roadway alignments were generally based on Pima Association of Government's 2006 Southeast Area Arterial Study (SEASS).

On the map, David pointed to commercial nodes along Houghton Road and said that Pima County had concerns about some of these nodes given their location within the CLS. David said that in the Arroyo Grande plan, which is north of Oro Valley, ASLD basically agreed to the 66.66% set-aside requirement for CLS Multiple Use Management Areas, but moved the location of this set-aside. He said that his guess is that the ASLD lands in the southeast corner of the Greater Southlands HCP Planning Area would be treated similarly. Marit noted that the southeast corner is classified by the CLS as Biological Core, which requires an 80% set-aside. David said some areas in the Arroyo Grande planning area had no CLS designation and so the Greater Southlands is more difficult from that perspective. Trevor said that, with the Arroyo Grande project, a fairly large wildlife corridor between the Tortolita and Santa Catalina Mountains was protected by 80% or 100% set-asides in exchange for higher density development elsewhere. The ability to adjust the CLS and negotiate development locations with ASLD was helpful from a biological resource perspective.

For the draft Southlands ASLD conceptual plan, David pointed out the hilly areas designated as "resort areas," which was also done with the Arroyo Grande plan. He said that these are floating locations and likely only one area would become a resort, which would be similar to Dove Mountain along the foothills of the Tortolita Mountains. Jamie wondered if the resort area in the southeast corner of the plan is also the location of Pima County's proposed Santa Rita Mountain Park. *[Action Item: OCSD staff ask parks planning staff about the location of the proposed Santa Rita Mountain Park and whether that park is included in the master plan revision.]*

In terms of the Houghton Road Corridor planning area, David said that there is a second phase development plan being created now. He said that Westcor completed their work and stepped away from the project. Thus, ASLD will finish this and issue a more detailed plan within the next six months or so.

Other than the proposed Sahuarita annexation and planning for Houghton Road Corridor, David said that he didn't know if any other concepts from the draft Southlands conceptual plan would be adopted any time soon. Jamie asked if the concepts on the map should be considered with other layers as part of the Greater Southlands HCP planning effort. David said that the planning designations may be revised significantly and therefore, not much weight should be given to them. In general terms, David said that the closer one gets to the COT limits, the more likely the development will be higher density. As far as the corridors are concerned, these are subject to change.

Trevor said that he thinks that what the TAC needs to consider is Sahuarita's General Plan for the proposed annexation area. He added that the TAC shouldn't propose a reserve to be located adjacent to high density development. Trevor asked if the COT has any ability to weigh in about this annexation. David said that the COT can comment but has no legal authority to block it.

Jamie said that the HCP planning area is based on the Municipal Planning Area that was adopted by COT Mayor and Council and this area does not include the lands proposed for annexation by Sahuarita. David said that Sahuarita does not have any property taxes and so the retail and commercial taxes that could be generated along Wilmot and Sahuarita Roads will likely be important to Sahuarita.

Jamie said that the mapping of the Lee Moore Study floodplains and flow corridors was done after the SEASS was completed. As Bill and John mentioned, some of these alignments may need to be reconsidered given the Lee Moore Study mapping. Jamie asked how this may influence ASLD's planning. David said that if this conceptual plan were reviewed again, changes would probably be pretty minimal, such as changing straight roadway alignments to curved alignments.

Trevor said that he was nervous when the COT Mayor and Council approved the SEAAS but said that Leslie indicated that there was flexibility. That is, the TAC's suggestions for wildlife and habitat could be incorporated into the SEASS and he hoped that the same would be true for the Lee Moore Wash Basin Management Study.

Jamie said that getting the spatial data files (i.e., GIS shapefiles) for these two ASLD plans would be valuable as overlays to the Greater Southlands HCP Planning effort. *[Action Item: OCSD staff will coordinate with ASLD staff on getting GIS files for ASLD plans within the Greater Southlands HCP Planning Area]*.

Greater Southlands HCP and Pima pineapple cactus

Jamie said that one possible tool for PPC conservation being explored is tiering of habitat for the species within the Greater Southlands HCP Planning Area. This would be informed by information gathered from PPC experts, USFWS staff, and USFWS biological opinions, but would also be constrained by the GIS data available. Jamie referred to a discussion draft map and explained that was created by first assuming that all lands are PPC habitat. Lands were then excluded and labeled as "unlikely PPC habitat" based on the PPC range, slopes of 15% or greater, and the Lee Moore Study floodplains. The 20-meter transect loops that Marc Baker walked as part of his 2005 and 2007 PPC surveys on ASLD lands in the Greater Southlands were labeled as lower potential habitat if no PPC were detected. Other lower potential lands included the HRC planning area since, according to Leslie, these lands were surveyed and no PPC were detected. Trevor asked if Marc Baker feels confident that he can observe a PPC from 30 feet away. Jamie recommended referring to the methods section of Marc's reports for an answer to this question.

All other lands were then considered as higher habitat potential. Jamie said that the black dots on the map indicate PPC locations according to Marc Baker's surveys. He said that ten percent of these PPC points occur within the Lee Moore Study floodplains. Marit said that the USFWS's more recent Biological Opinions exclude the sandy wash bottoms as PPC habitat but not the entire floodplains. And, usually the U.S. Army Corps of Engineers provides the delineation of the sandy wash bottoms as the mapped jurisdictional waters. Jamie said that it would be helpful to have this information for another iteration of the PPC habitat modeling and Marit said that the mapping is done on a project-by-project basis.

Trevor asked if the PPC points on private property are held by the USFWS. Marit said that information is turned over to AGFD. Marit said that it would likely be possible to get these points from AGFD. Trevor said that it would be nice to see the distribution of as many PPC as possible, even if many of them have been eradicated, to know, for example, if the 10% within the floodplain calculation still holds true. This may help refine the model and do some minor adjustment to the floodplains as unlikely PPC habitat areas. Jamie added that the GPS unit's positional accuracy could be a minor factor influencing whether or not the point is inside or outside the floodplain. Trevor concurred and said that, depending on the unit, it could be 15-20 meters off.

Marit said that conditions and distributions vary across the PPC range, and, therefore, models that may apply to Altar Valley cannot be applied to the Greater Southlands. She added that the USFWS has been struggling with modeling PPC habitat for some time. She continued saying that Pima County developed the PPC Priority Conservation Area based on known PPC locations. Locana asked about the extent of the Priority Conservation Area and Jamie said that it covers all lands within the Greater Southlands that are also within the PPC range. Ries asked if the PPC are actually clustered or if the clustered distribution on the map is more a reflection of where transects were surveyed. Jamie said its probably a combination of both and noted that the PPC survey data that the COT has access to only occurred on State Trust land.

Jamie distributed a handout containing excerpts from the PPC conservation considerations document discussed by the TAC in late 2008. The document contained draft conservation goals and one of the draft possible scenarios, which he reviewed. Marit asked about the 30 percent NPPO set-aside requirement as part of Scenario 1, option A and how the CLS set-aside requirements were incorporated into this, if at all. Trevor said that the 30% set-aside is a sub-set of the 80%. He added that he didn't recall the specifics of the NPPO, but said that he thinks the developer is supposed to set-aside the most valuable lands in terms of the protected plant species on the property. Marit said that this is usually along the watercourses and Trevor agreed, noting the riparian vegetation. He added that this may also include ridges if PPC are on the property. Then, if the development proposed for rezoning is within the Biological Core, an additional 50% would need to be set-aside to reach the 80% required. With Option B, Jamie said that there would be a reduced CLS percentage set-aside requirement but that the NPPO would still need to be complied with using the 30% set-aside method. Marit suggested that the set-aside be required to be public open space, not private yards. Trevor said that the set-asides currently within Pima County cannot be private yards and must be public open space even though the public can be restricted from accessing it.

Linwood asked if there is a percentage considered as part of the reduced CLS compliance in Option B. Jamie said that that hadn't been determined and the TAC could help decide whether this would be a valid option and what that set-aside percentage should be. Trevor said that he would be okay with the idea of reduced CLS percentage set-aside requirements in exchange for setting aside the higher density PPC patches as well as cacti important for PPC pollinators. Trevor said that the CLS is only a guidance document and is not Pima County code. He added that Pima County often reduces the CLS set-aside requirements, but that they only reduce this amount be single digit percentages based on constraints the developer presents to Pima County

staff. So, Trevor said that one consideration is whether or not the COT will codify the CLS or if it will only be used as guidance.

Trevor mentioned the PPC dispersers (e.g., Black-tailed and Antelope Jackrabbits) and the threats to them in terms of road mortality and urbanization. He said that the TAC needs to consider large set-asides for these jackrabbits and fencing and crossing structures at every road. These jackrabbits could be umbrella species in the area and he wasn't sure what the home range size is but guesses that it is pretty large.

Marit said that disturbances in the proposed corridor in terms ATV use will need to be monitored. She wondered if there is some way to incorporate a large set-aside somewhere in the HCP planning area as part of Options A and B. Perhaps as lands are developed, a certain amount of funds can be used to pay for the set-aside. Trevor said that ASLD was approached about conservation banks and he suggested that certain areas be considered sacrifice areas so that other lands can be set-aside. Trevor said that one of the TAC's earlier ideas was to propose an off-site mitigation option in Altar Valley, which Trevor said he disagrees with. Rich said that siting this bank adjacent to the Santa Rita Experimental Range (SRER) would allow more "bang for the buck" given the PPC habitat on the SRER.

Trevor wondered if the Swan Southlands development was going to involve off-site mitigation and said that it would be ideal if this could occur in the Greater Southlands and not in Altar Valley. Marit said she did not know if this development would be required to undergo a USFWS Section 7 consultation and if off-site mitigation would be required.

In terms of the CLS, Marit said that it was developed by using the number of sensitive species as thresholds for the various categories. Thus, there are many areas outside the CLS and within the HCP Planning Area where the only sensitive species is PPC. Therefore, the CLS might be arbitrary for PPC habitat tiering. Trevor said that we don't want to discard the CLS from the Greater Southlands HCP conservation program, but the TAC needs to consider what will happen in areas outside the CLS.

Bob asked why Jamie had not included all the other PPC point locations within the AGFD Heritage Data Management System, saying that, without these, the map is misleading. He pointed out areas on the map that have very old alluvium, which can be seen by looking at an aerial photo in which the white areas indicate alluvial fan remnants, which are basically caliche. PPC doesn't occur in these areas. As a biologist, he said that he feels that such areas can be written off with little impact to the population. In another area within the HCP Planning Area, he noted the rich mosaic of different types of alluvium, some of which support PPC and some that curiously do not. The brick-red alluvial fan, part of which is occurs within the SRER, often supports large numbers of PPC. He mentioned the extremely high density of PPC on the west side of Corona de Tucson that was recently developed. He said that jackrabbits feed within the wash systems during the summertime and this is evident by the grass in their dung. He said that if he knew where every jackrabbit in the area was during the summer, his guess would be that they would be clustered around the stock tanks. So, he said that the TAC has an opportunity to think about the waterways that need to be maintained as open space since they provide the

disperser corridor. Then, it becomes an issue of how much upland is needed for PPC and for the jackrabbits that get out of the washes into open areas where they feel relatively safe.

Trevor said that it would be helpful to also get a sense of the private property in the HCP Planning Area. He suggested that COT staff bring a laptop with ArcGIS loaded on it and then have the TAC suggest layers to turn on and off during the next meeting, such as the ERZ, floodplains, and protected areas. Trevor said that the floodplains can be important seed disperser corridors while the uplands are important pollinator corridors.

5. Upcoming meetings

The next meeting is scheduled for April 29 where discussion will focus on the proposed Sahuarita annexation and the progress made by the RPAC on the revised watercourse preservation ordinance. PPC conservation will also be discussed.

6. Call to the Audience

Bob said that he would encourage the COT and TAC to include as much PPC point data as possible when considering PPC conservation because there are survey blocks that would be insightful to include, even if they no longer exist in terms of the resident population of plants. And, it is still insightful to see those distributions at different scales because scale seems to matter again and again. Bob said that Sabra Schwartz of AGFD has a rich storehouse of PPC UTM coordinates. Dennis said that there are some restrictions on some site-specific information when it comes to sensitive species. He added that he doesn't know what Ms. Schwartz policy is on plants per se but that some of that data gets "fuzzied" so to speak when it comes to animals. Bob said that these are plants located on private land and these belong to the individual landowner, unlike animals, which belong to the State.

7. Adjournment

The meeting was adjourned at 4:00 p.m.

Summary of Action Items:

- *OCSD staff ask parks planning staff about the location of the proposed Santa Rita Mountain Park and whether that park is included in the master plan revision*
- *OCSD staff will coordinate with ASLD staff on getting GIS files for ASLD plans within the Greater Southlands HCP Planning Area*